Journal of Physics: Conference Series 2018 vol.1068 N1

Information losses when recording the stimulated echo-hologram in gas media

Akhmedshina E., Nefediev L., Garnaeva G., Zamaliev N.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Published under licence by IOP Publishing Ltd. Considered is the impact of collisions with the change of the particles velocity in the 174Yb vapor exerted on the information reproducibility in the stimulated echo hologram response, encoded in the temporal form of the second object laser pulse. It was manifested that such collisions result in the increase of the "spurious" information, serving the background for loosing information introduced into the object laser pulse in the stimulated echo hologram response.

http://dx.doi.org/10.1088/1742-6596/1068/1/012001

References

[1] Zuykov V, Nefed'ev L and Samartsev V 1982 Applied questions of holography (L.: LINF) 179
[2] Nefed'ev L 1985 Opt. and Spectrosc. 59 841
[3] Nefed'ev L 1986 J. Appl. Spectr. 44 664
[4] Nefed'ev L 1986 Opt. and Spectrosc. 61 387
[5] Evseev I, Rubtsova N and Samartsev V 2009 Photon echo and phase memory in gases (Kazan: Kazan State University Press) 490
[6] Rubtsova N, Ishchenko V, Khvorostov E, Kochubei S, Khvorostov E and Yevseyev I 2004 J.Phys. Rev. 70 023403
[7] Akhmedshina E, Nefediev L and Garnaeva G 2016 Opt. and Spectrosc. 121 405
[8] Akhmedshina E, Nefediev L and Garnaeva G 2015 J. Appl. Spectr. 82 669
[9] Akhmedshina E, Nefediev L, Garnaeva G and Shigapova E 2017 J. of Phys.:Conf. Series 859 1